

W Wickes



EASY SEAL

THE SELF ADHESIVE ROOFING SYSTEM

**Safe, Easy and Economical
Flat Roofing**

STEP BY STEP GUIDE

A Guide to The Easy Seal
Self Adhesive Roofing system
on new and existing flat roofs



EASY SEAL

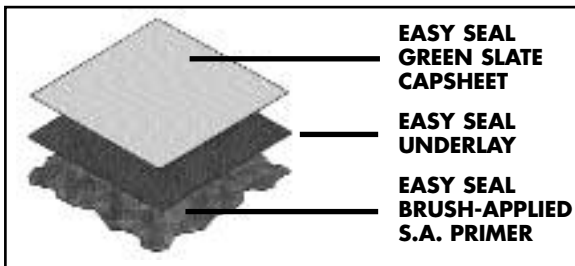
THE SELF ADHESIVE ROOFING SYSTEM

THE EASY SEAL SELF-ADHESIVE ROOFING SYSTEM

The Easy Seal system has been developed to make flat roofing easy, safe and economical for the jobbing builder, small roofer or experienced DIYer, to a professional quality standard without the need of expert roofing skills.

Easy Seal is BBA certified No. 02/3941, has a minimum 20 year life expectancy, complies with Building Regulations and has been tested in accordance with BS 476-3 : 1958 achieving a FAC Fire rating.

There is no need to use hot bitumen, gas torches or large amounts of messy liquids, and only basic skills and tools are required. Tough and durable, the Easy Seal system is designed to be clean to handle and simple to install.



Easy Seal is a two layer, high performance, self-adhesive system that is ideal for replacing an existing roof covering or installing a new waterproof surface on a properly prepared existing deck on many types of roof including garages, dormer windows, porches and extensions to habitable buildings.

This system is not suitable for overlaying existing roof membranes.



Tools Required

- A tape measure
- Stanley knife complete with a straight edged blade and hooked blade
- Claw hammer
- 3" or 4" wide paintbrush
- Soft headed broom or cloth
- Flat blade spreader
- Cartridge (skeleton) gun
- Wood saw

Materials Required

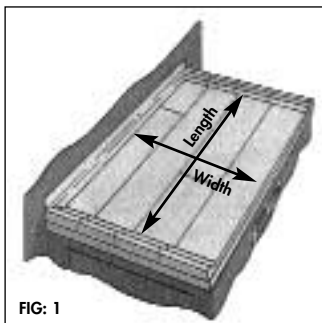


FIG: 1

Material Quantities:

The amount of materials required for any flat roof will depend on how simple or complex the roof construction is; the number of changes of surface level, water run-offs, curves, flashings, and gutters there are determine the amount of material required. The following gives a rough guide to calculate the basic requirements. The Easy Seal Self-Adhesive roofing system is made up of four elements and materials can be calculated as follows.

Easy Seal Underlay and Easy Seal Capsheet

Underlay is supplied in 8m x 1m rolls and Capsheet in 6m x 1m rolls. Calculate the flat area of your roof in square metres (length x width -see fig 1). Add 10% for laps and wastage. Add to this the total linear metreage of the perimeter edges (the distance all the way round) of your roof multiplied by 0.3m (for curves, gutters, upstands etc.). Where there are larger details such as parapet walls the multiplier of 0.3m will not be adequate; additional material will have to be allowed for. Divide total square metres by eight for Underlay and five for Capsheet to give you the number of rolls you need.

Here is a helpful formula:-

Flat roof area (length x width)	=	_____	square metres
10% for laps etc., (area m ² x 0.1m)	=	_____	square metres
Roof perimeter x 0.3m	=	_____	square metres
TOTAL	=	_____	square metres
Divide by 8 for Underlay	=	_____	rolls required
Divide by 6 for Capsheet	=	_____	rolls required

Easy Seal SA Primer:

Supplied in 2.5 litre tins. One litre should be sufficient for 4-6m² of roof area.

Easy Seal Lap Mastic:

Supplied in 310ml cartridges: The cartridge will fit a standard cartridge (skeleton) gun - covers approx. 3 linear metres.

PLEASE NOTE: These coverages are given as a general guide only. Quantities of primer, membrane and mastic may need to increase if roof edges are long and shapes and details are intricate or complex.

Additional materials:

Explanation of usage will be dealt with on pages 3 and 4

Galvanised Clout Nails:

Clout nails should be 19mm long with extra large heads, and calculated on the basis of twenty one nails per linear metreage run of roof at the kerbs and gutter edges.

Hardboard formers:

The width of the hardboard strip should be 75mm.

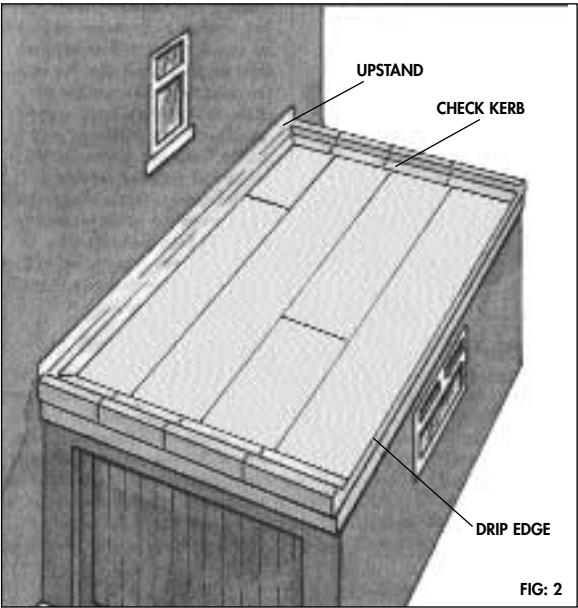
Angle Fillet:

Timber angle fillets can be bought already cut to a triangular section, 75mm x 75mm. Wickes Arris Fencing Rails are ideal.

Drip Battens:

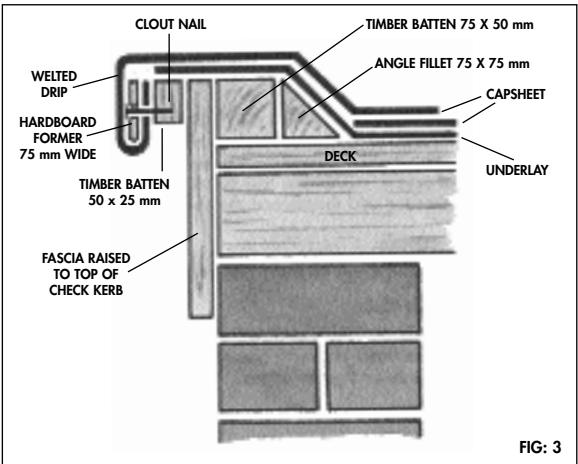
Lengths of timber Approx, 50mm x 25mm. Wickes pre-treated 22 x47 Sawn Soft Wood is suitable

Definitions



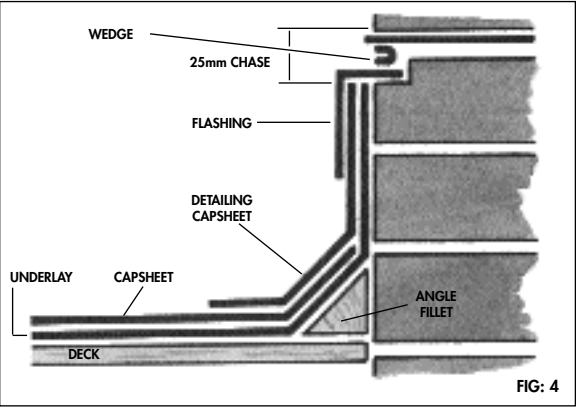
Check Kerbs

Timber kerbs installed along an edge of a roof to prevent water running off that edge and to encourage water to run only towards the gutter/drip edge (see Fig 3).



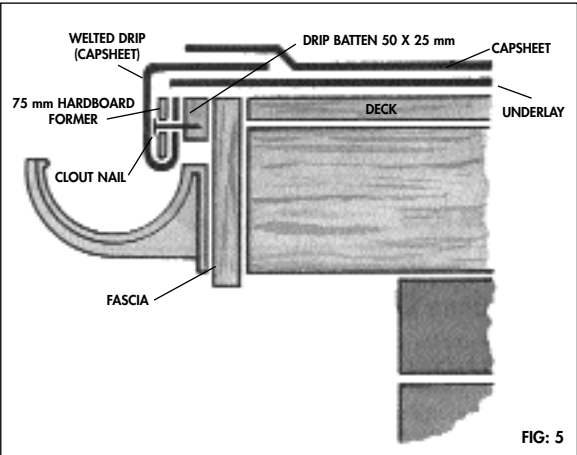
Upstands

The point on a roof where the deck meets a vertical surface such as a wall. The internal angle should be filled with an angle fillet. The roofing felt must always be dressed or taken up the vertical surface by at least 150mm above the roof surface. The membrane is usually fixed into a chase or underneath a flashing (see Fig 4).



Flashing

A lead, plastic or roofing material strip that has been let into a mortar line or cut into brickwork and sealed to allow the run-off of rainwater from the roof. The lower edge of the flashing strip will overlap the top edge of roofing material to ensure a weathertight seal.

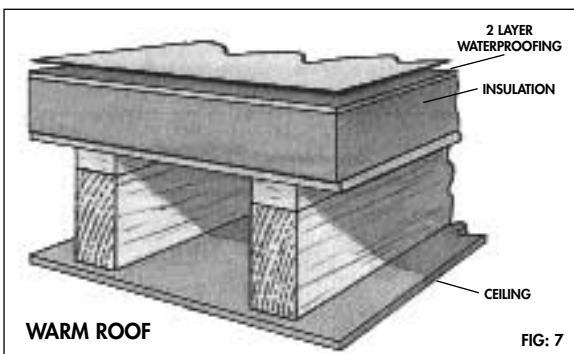
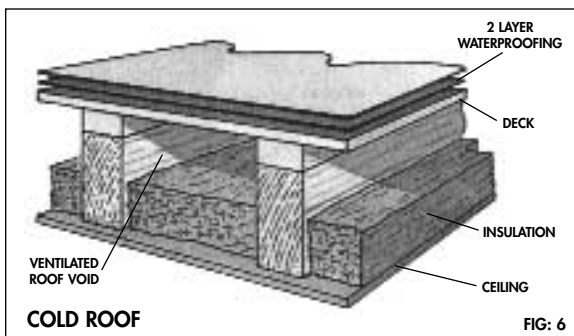


Welted Drip/Gutter Edge

The drip/gutter edge is the point on the roof where water runs off into the gutter. The welted drip is formed out of Easy Seal Capsheet, timber battens and hardboard strips. It is designed to ensure the effective run-off of rainwater without the water running down the wall (see Fig 5).

Roof Design and Construction

It is important to be aware of the existing Building Regulations concerning the design and construction of flat roof structures. In new constructions and some re-roofing projects, it may be necessary to consult your local council Building Control office with regards to compliance with Building Regulations. Wickes roofing products generally conform to the current Building Regulations in the United Kingdom.



Design Considerations

In a flat roof the waterproofing is always supported by a structural roof deck. This is usually a timber boarding of some type which in turn is supported on joists.

With the exception of garages, most roofs above the habitable part of the house require insulation. The most common method is where the insulation is located immediately above the ceiling. This is known as a cold roof (see Fig 6).

In cold weather, the roof could be prone to condensation if adequate through ventilation is not provided. Refer to BS6229: 1982.

Alternatively, the insulation may be placed above the roof deck. This is known as the warm roof design (see Fig 7). The insulation used must be of a urethane/plywood composite board with the plywood face on the top surface.

Deck Materials

It is important that the right materials are chosen for constructing or strengthening a flat roof deck. Here are some suitable materials.

Plywood Deck

This should be exterior grade type WBP bonded in accordance with BS 6566: Part 8: 1995. A minimum thickness of 18mm is recommended and you should check with Wickes supplier that it is suitable for your particular roof structure.

Timber Boarding

Where an existing deck comprises of close boarded tongued and grooved timber, it is recommended that a 6mm plywood overlay deck should be installed to provide a smooth homogenous surface for the self-adhesive membrane to bond to.

Concrete

Common in roofs to blocks of flats and some pre-war houses, concrete is a stable and reliable deck material. If this needs repair, provision should be made for drying out before any priming or waterproofing covering is laid.

Chipboard

Although frequently used for residential flat roofs, it is not generally suitable unless the roof has no ceiling, for example, as in a garage. If Chipboard is used it should conform to British Standard 5669: Part 2: 1989 Types C.3, C.4 or C.5.

Note: Prebitumenised decks are also suitable.

Essential for a successful Flat Roof

Like any part of a building's exterior, flat roofs should be constructed to withstand natural and human forces with the minimum of attention.

PROTECTION FROM RAIN AND SNOW

- The finished roof should have a slope of at least 1 in 80.
- It is best to drain the roof to one or two edges.
- Conventional eaves gutters are better than internal outlets.
- Internal outlets should be adequately sized to deal with storm conditions and be fitted with clamping rings, leaf and gravel guards.
- The waterproofing should extend up adjacent walls at least 150mm from the finished roof surface in all situations.
- The top edge of felt should be protected by a cover flashing.

PROTECTION FROM SUN AND FROST

- It pays to insulate: heating bills are lower and rooms are cooler in the summer.
- Insulation of new flat roofs must satisfy the Building Regulations.

PROTECTION FROM CONDENSATION

- Cold roofs should have adequate through-ventilation.
- Warm roofs require a vapour control layer.

PROTECTION FROM THE WIND

- All roofs should be constructed to resist wind forces.

PROTECTION FROM PEOPLE

- If the use is changed, the structure may have to be strengthened.
- Damage is often caused by service trades such as a window cleaner, for example.

Before you begin

Consider the weather

Now you have assembled all the materials, tools and equipment you need, the final consideration before beginning your roofing job is the weather. Try to ensure that the weather will be dry all day and if possible conditions warm.

Temperature awareness

The Easy Seal material is easiest to work at a temperature over 10°C. If it is difficult to achieve this temperature whilst working on the roof, it is recommended that the material be stored in a warm environment for 24 hours prior to use.

If it is necessary to work on the roof in cold weather, then the gentle warming of the adhesive side of the felt with an electric hot air paint stripper or similar (not a naked flame) will help the adhesive properties of the material. If temperatures become extreme it is advisable to postpone the project until more favourable temperatures pertain.

Make good and mend

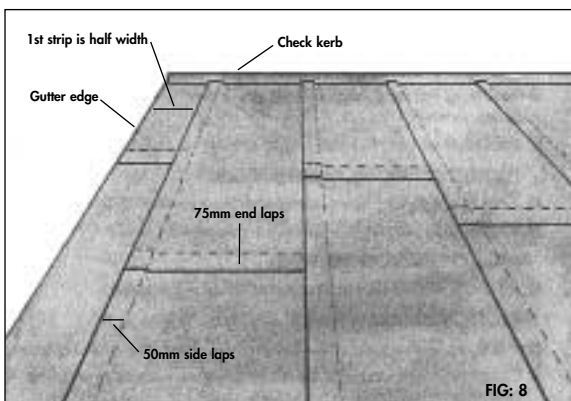
Inspect the condition of the existing roof structure and deck prior to commencement of roofing. Make any structural repairs that are necessary and ensure that the surface area of the roof is free from obstructions, smooth, clean and dry prior to the commencement of the project.

The right sequence

It is advisable to plan the sequence of your roofing job to ensure that you have the right materials at the right time. If in doubt, read these instructions through completely first noting down the sequence in which you will use the materials.

Guard rail warning

For roofs above 2 metres high it is essential that a safety guard rail be erected around the perimeter of the roof. At this height ladders should be fixed to the guard rail and secured at the foot to prevent slipping.



Step 1

Preparation and Priming

For simplicity, these instructions deal with flat roofs for garages and extensions.



New roofs

For new roof structures, first ensure that materials used are suitable for the purpose. Please refer to pages 5 and 6 of this guide for information about suitable materials for roof structures.

Existing roofs

For an existing roof, where the material needs replacing, strip off all old roofing felt and covering, fill knots, large holes and gaps in the timber or other material deck surface. Flatten or cut off any projections that may interrupt or interfere with the smooth line of new roofing material.

Fitting fillets and battens

These are used to provide check kerbs along roof edges that will prevent water run-off and direct water to the drip/gutter edge. Use 75mm x 50mm timber for battens and 75mm x 75mm triangular section timber for fillets.

Fit angle fillets to all upstands and check kerbs as required.

Fit drip battens, as illustrated previously (Fig 3), along all edges (gutter and check kerbs etc.). The batten should be flush with the top of the fascia board with the 25mm edge uppermost.

Cut hardboard formers

Cut hardboard formers to the length of the gutter/drip edge. The depth of these formers should be 75mm. The formers should not be put in position at present; their use will be detailed under step 3.

Prime surfaces

Prime all deck surfaces to receive the Easy Seal membranes using the Easy Seal SA Primer. Prime all walls up to the chase and all hardboard formers, following the instructions on the Easy Seal SA Primer can.

Note: The Easy Seal SA Primer is not a waterproof coating for flatroofs; it is only preparing the deck surface to receive the Easy Seal Underlay. Using other primers may result in incompatibility with the Easy Seal Underlay.

Step 2

Applying the Underlay

Measuring and laying out

The Easy Seal Underlay has a non-removable polythene top surface and an adhesive under surface protected by release paper.

Lay out the underlay with the release paper intact and cut the underlay to the size required.

NB: It is best to use a hooked blade when cutting Easy Seal membranes.

The underlay will be laid in strips running parallel with the gutter/drip edge. The first strip of underlay should be cut to half its width along its length. This will allow for staggered joints when applying the Capsheet. The length of each strip required should provide for covering check kerbs as necessary. If the length of the roof is longer than an 8m roll, allowance should be made for overlaps of 75mm where two ends of roll join (see Fig 8).

Allowance should be made for roofing material to form the upstands. With the correct amount of underlay strips cut you are ready to apply the self-adhesive underlay to the deck.



Start at the gutter edge

Starting from the lowest point of the roof (the gutter/drip edge) lay out the first felt strip in its correct position on the roof. This first strip of Underlay should be laid to the gutter/drip edge of the decking.

Next, roll half of the strip back towards the centre to expose the release paper underneath.

At a point close to the centre of the strip that has been folded back, carefully cut the release paper across the width of the roll with a Stanley knife using a straight edged blade without cutting through the Underlay.

Peel the paper

- Peel back some of the release paper to expose that part of the underlay which is now ready for sticking to the deck. You will therefore, be working from the centre of the strip towards a kerb.
- Gradually peel back a section of the release paper at a time whilst pressing down the self-adhesive side of the Underlay onto the decking, using a rag or soft headed broom to eliminate air bubbles.
- Where two ends of strip need to be joined, overlap the ends by 75mm and ensure that all overlaps face the same direction.
- All joins should be staggered so that no two overlaps appear in the same position on adjacent strips.
- Securely press the Underlay into any angles that are encountered; acute angles can be more easily stuck with pressure from a cloth, soft broom or, if necessary, a wallpaper roller or similar.
- Repeat this procedure for the other half of the membrane.
- Repeat this procedure for each strip or strips, starting at the centre of the strip working to one side and then repeating the process to the other side.
- Each additional strip should overlap each lower strip along its length by 50mm.

Up the wall

If there is a vertical wall where the highest point of the deck ends, the Underlay will need to go up the wall by 150mm from the finished roof surface. It is usually easier to do this with separate pieces of membrane cut to the required size.

Cover all areas

Finally, check that all areas of the decking, kerbs and upstands are covered with Underlay and that any trapped air bubbles have been removed to achieve as smooth a surface as possible.

Where there are internal and external corners to be waterproofed, the membrane will need to be cut and positioned according to instructions on pages 15 to 18 as required.



Step 3 The Gutter/Drip Edges

Measure the gutter edge

These strips will form the welted drip edge at the lowest point of the roof i.e. where rainwater will be required to run off the roof into a gutter. The width measurement of the Capsheet strips required will be twice the width of the hardboard former plus a minimum of 150mm to go back onto the roof.

The length of strips is determined by

the length of the drip edge with an allowance for overlaps.

First, cut sufficient strips to accommodate the length of the roof.

Nail the Capsheet strips

Next, starting from one end of the roof and working along the drip edge, carefully nail, using clout nails, the first strip of Capsheet to the drip batten, with the release paper peeled back slightly to expose the self-adhesive underside of the Capsheet.

The top edge of the Capsheet should be flush with the top of the drip batten and the remainder of the strip is hanging down with the self-adhesive side facing away from the roof and the slate green mineral side facing the building. For the moment leave all release paper in position only peeling back sufficient to expose enough of the self-adhesive side to nail onto the drip batten.

Lapping of Welts

With all the strips across the length of the gutter/drip edge in place, hanging down like a curtain off this edge, take the primed hardboard formers and nail them, using the large head clout nails, to the drip batten, so that the Capsheet strips are sandwiched between the hardboard former and the drip edge batten.

The Selvage edge

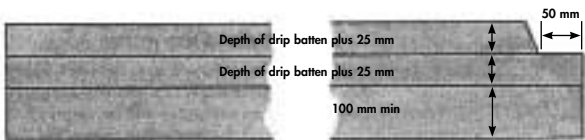
Along one edge, on the top (green slate mineral) surface of Easy Seal Capsheet, is a strip of release paper covering a self-adhesive strip. (This selvage edge is for overlapping and sticking one piece of Capsheet to another to form a weathertight seal). You should always ensure that the selvage is on the side where your next piece of Capsheet is to be applied.

Fold over Welts

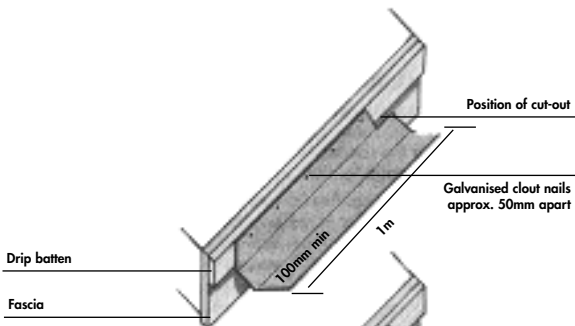
Remove the remainder of the release paper from the self-adhesive underside of the Capsheet and draw the Capsheet up over the hardboard former and onto the roof to stick to the Underlay that is already in place. At the point where these Capsheet strips meet the kerb areas, the Capsheet should be cut to avoid creases and folds. (see page 13).

Note: The portion of the Capsheet strip that is on the roof will be covered by a further strip of Capsheet, detailed in later steps, to form a tough, watertight seal.

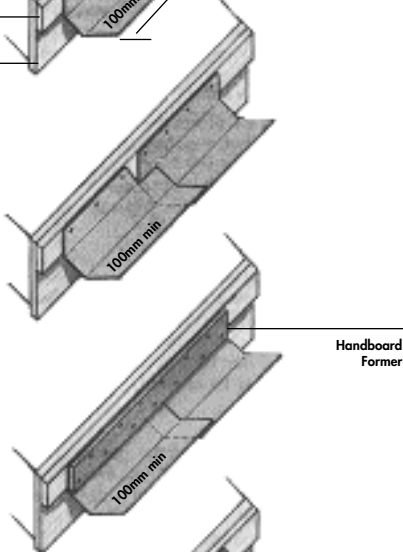
Welled Drip at Eaves or Verges



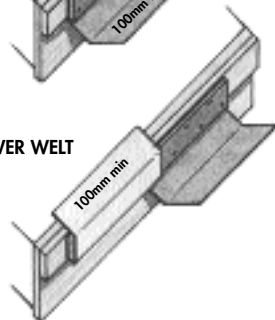
ENLARGED PLAN OF CUT-OUT



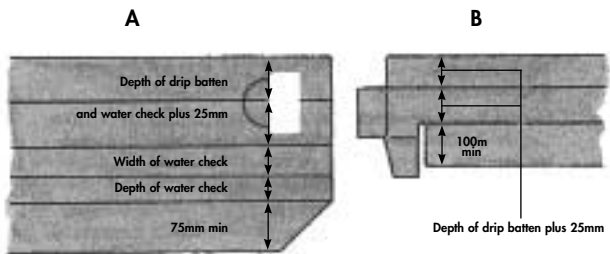
LAPPING OF WELTS



FOLD OVER OF LOWER WELT

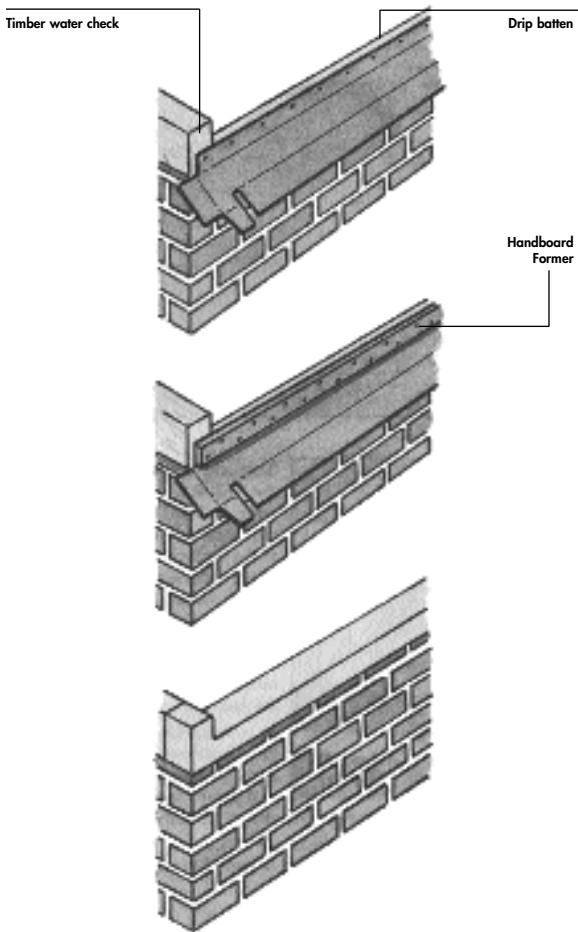


Junction of Drip Edge and Check Kerb



NB: Cut out A to be used when the main deck is complete.

ENLARGED PLAN OF CUT-OUT



Step 4 Applying Easy Seal Capsheet

Measure and layout

Lay out and cut the Capsheet strips to size in exactly the same way as the Underlay, ensuring that end laps and side joints do not coincide with those of the Underlay.

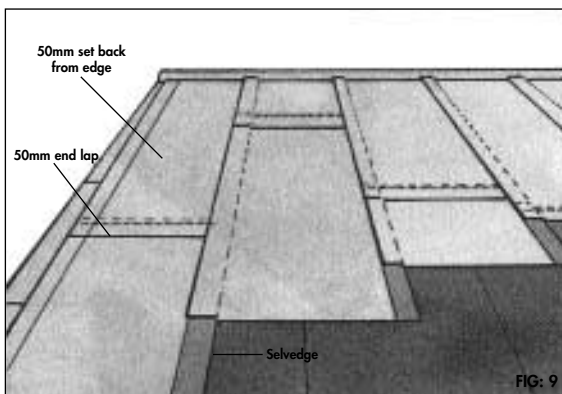
The first Capsheet should be set back from the roof edge by approximately 50mm.

Lay out the Capsheet with the release paper intact and cut the Capsheet to the size required. Use the same method of applying as for Underlay. The Capsheet will be laid in strips running with the joints staggered but not overlapping any underlay joint (see fig 9).

Where two ends of strip need to be joined, overlap the ends by 75mm and ensure that all overlaps face the same direction. All joints should be staggered so that no two overlaps appear in the same position on adjacent strips.

Securely press the Capsheet into any angles that are encountered.

Repeat the procedure for all strips of Capsheet until the deck area is completely covered.



Sealing needed

You will notice that, at the gutter/drip edge and end laps, the underside of the Capsheet will not adhere very well to the top, green slate mineral coating of the Capsheet strips now in place.

Step 5 shows how to seal these joints, which should be done as you install each piece of capsheet. The strip of Capsheet should be laid out with the selvege edge to the middle or where the next roll of felt is to come.

As with the Underlay and previously laid Capsheet, make sure that all the overlaps go in the same direction, that any joints are not over the joints in

the Underlay and no two joints are in the same line on different strips of Capsheet.

Note: The detail for finishing the tops of the kerbs is given in Step 6.

Step 5 Sealing the Gutter/Drip edge and end laps



To seal the top sheet of Capsheet, where it is being applied to a green slate surface, i.e. end laps and drip edges, peel back the top Capsheet along the length of the roof to reveal the strips of Capsheet that form the welted drip edge.

Apply Lap Mastic

Apply a generous snaking 5mm bead of Easy Seal Lap Mastic to the topside of the lower Capsheet surface, across a band of 75mm or so. Using a spreader, spread the mastic evenly over the surface of the Capsheet.

Firmly press the top strip of Capsheet down onto the Lap Mastic to join the two surfaces together in a watertight bond.

Step 6 The Finishing Touches



On the typical flat roof the remaining areas to be finished are the kerb edges and the upstands.

Kerb edges

Finishing the kerb edges is the same procedure as making the welted edge on the gutter/drip edge, but the finishing sheet will need to be bonded to the slate green surface with the lap mastic (see Step 5).

Upstands

The underlay will already be placed up the adjacent wall to about 150mm height from the roof surface.

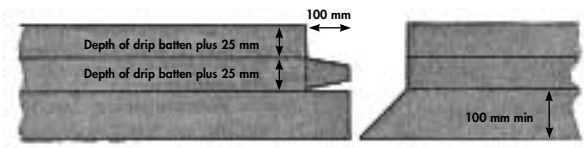
The extra strip of Capsheet should be applied to the wall and brought down onto the slate surface deck to cover the upstanding section. The detailing strip and deck should be bonded together with Easy Seal Lap Mastic.

An extra strip of Capsheet can be used as flashing if required. (see Fig 4 on page 4)

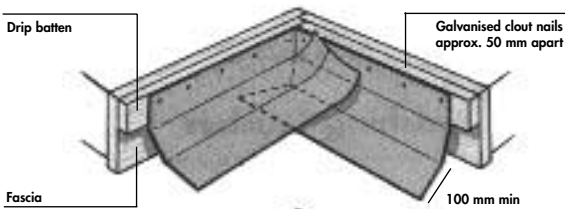
Note: The slate green surface of the Easy Seal Capsheet is a perfectly adequate waterproof finish. However, stone chippings may also be applied using a chipping compound if required.

The following pages show how to install Easy Seal membranes at a variety of Junctions on the roof.

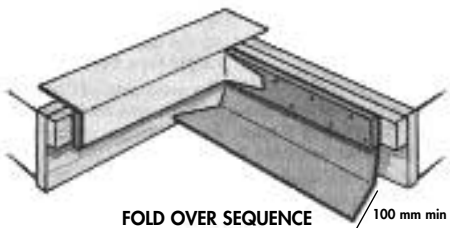
Internal Corners



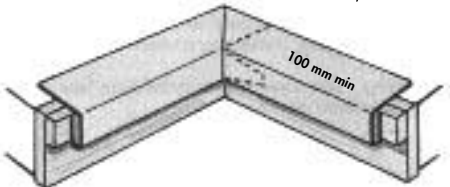
ENLARGED PLAN OF CUT-OUT



LAPPING OF WELTS

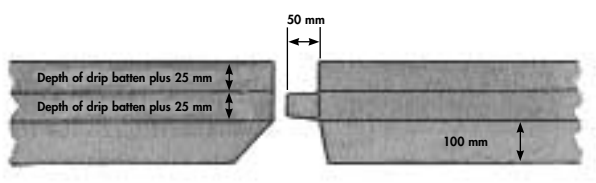


FOLD OVER SEQUENCE

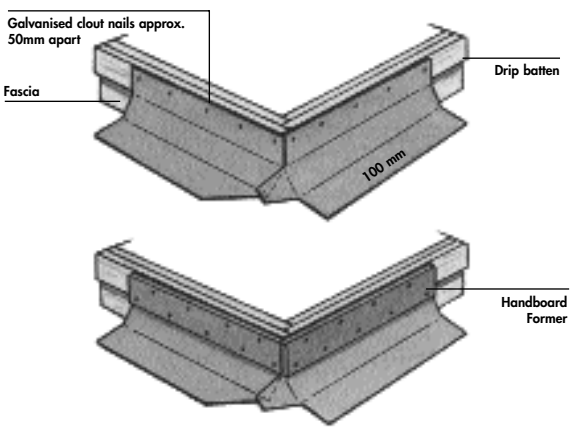


FINISHED DETAIL

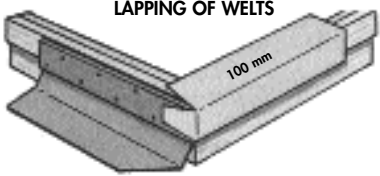
External Corners



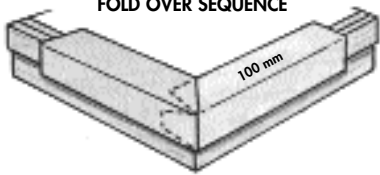
ENLARGED PLAN OF CUT-OUT



LAPPING OF WELTS

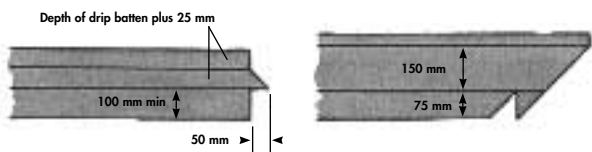


FOLD OVER SEQUENCE

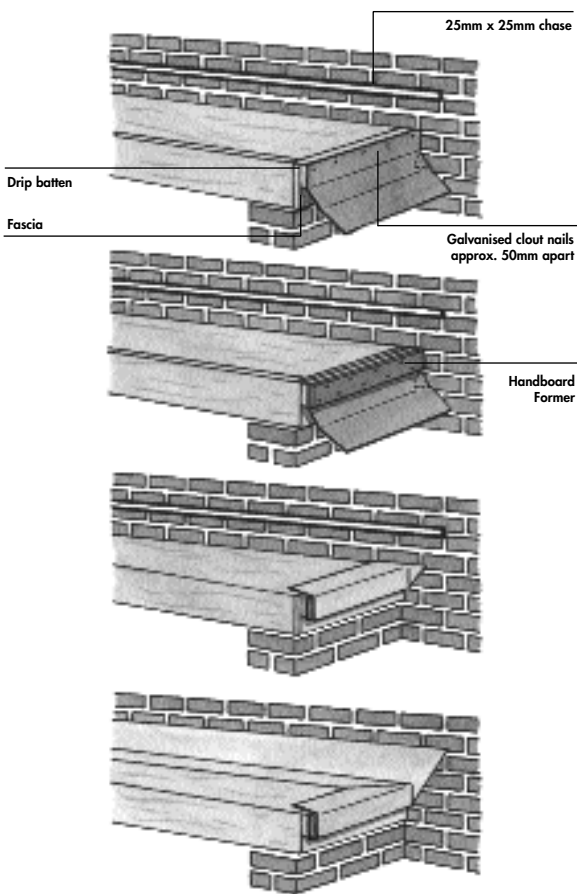


FINISHED DETAIL

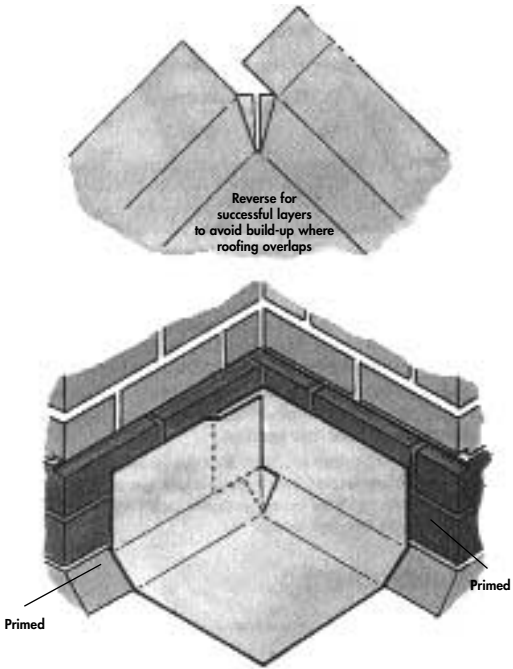
Junction of welted apron and wall upstand



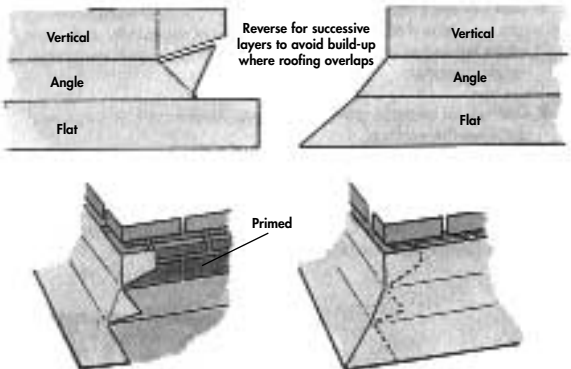
ENLARGED PLAN OF CUT-OUT



Wall and upstands internal angle



Wall and upstands external angle





Flat Roof Maintenance

Ideally all flat roofs should be inspected once every six months, in the Spring and Autumn. These inspections only take a matter of minutes and involve a routine look at the roof condition.

It is important to check the outlets, projections, gutters, rooflights and flashing. If any of the surface chippings have become displaced they should be swept back into position.

In Spring it is important to check that the gutters and outlets are not blocked by fallen leaves which may cause water to pond. This is also the time to look for frost damage to the pointing which may allow the roof structure to become damp.

Do's and Don'ts

- Do deal with a leak as soon as it is noticed.
- Do check with the original specification to identify the roof build up.
- Do consider repair now rather than costly replacement later.
- Do check the roof before and after any work is carried out by other trades. In this way damage caused by other people will be easily identifiable.
- Don't use the roof as a working platform for adjoining buildings. Where access is required, protection must be given so as not to damage the waterproofing membrane.
- Don't allow other trades to fix units through the waterproofing membrane without proper advice. This is especially important when having television aerials, satellite dishes and telephone cables installed.
- Don't drop cement, paint or solvents on the roof as these will damage the surface.

Technical Advice Service

A free technical advice service is available from the Technical Services Department on **0800 074 9137**